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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,566	01/15/2004	Bernd Freisleben	003-104	4534

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EXAMINER	
SUAREZ, FELIX E	

ART UNIT	PAPER NUMBER
2857	

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/757,566	FREISLEBEN ET AL.	
	Examiner	Art Unit	
	Felix E. Suarez	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 14-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5-12 and 15-24* is/are rejected.

7)☒ Claim(s) *3,4 and 14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *14Sep04;12Dec04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Minor Informalities

1. The disclosure is objected to because of the following informalities: In Claim 17 page 5 line 28 the phrase "comparison," should be –comparison. --. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 5-12 and 15-24 are rejected under 35 U.S.C. 102(b) as being unpatentable over Pakonen et al. (U.S. Patent No. 6,448,782).

With respect to claims 1 and 24, Pakonen et al. (hereafter Pakonen) teaches a method (or apparatus) for the analysis, monitoring, or both, of the partial discharge behavior of an electrical operating device, the method comprising:

recording partial discharge data in process state matrices, the partial discharge data including amplitude of a partial discharge, phase angle of said partial discharge, and frequency of occurrence of said partial discharge (see col.

8, lines 23-36), said partial discharge data being depicted in a matrix element of the process state matrix (see col. 9, lines 3-15);

at a first time, registering a partial discharge process state in a first process state matrix (see col. 8, lines 23-31);

at a second time after said first time, registering a second partial discharge process state is in a second process state matrix, and comparing, the first and the second process state matrices said comparing comprising comparison (see col. 9, lines 57-66; col. 10, lines15-28 and FIG. 20) and scaling (see col. 11, lines 35-53).

With respect to claim 2, Pakonen further teaches comprising, for each matrix element of the process state matrix, depicting the amplitude of a partial discharge as a function of the phase angle (see col. 8 line 65 to col. 9 line 10); and

assigning each matrix element an associated frequency of occurrence (see col. 9, lines 11-26).

With respect to claim 5, Pakonen further teaches comprising;

Weighting (see col. 14, lines 11-26), scaling, or both the individual matrix elements differently, depending on the amplitude, the phase angle, the frequency of occurrence (see col. 12, lines 14-31), before said individual matrix elements

are used in comparison (see col. 9, lines 57-66; col. 10, lines15-28 and FIG. 20) and scaling (see col. 11, lines 35-53).

With respect to claim 6, Pakonen further teaches that, comparison comprises forming similarity values which reproduce the difference between the process state matrices.

With respect to claim 7, Pakonen further teaches comprising:

combining matrix elements of the process state matrices in discrete windows; and averaging together (see col. 7, lines 49-52), scaling together, or both each of the matrix elements of the process state matrices of a window before using, in said comparison (see col. 9, lines 21-26).

With respect to claim 8, Pakonen further teaches comprising:

comparing the contents of corresponding windows of different process state matrices (see col. 9, lines 57-63); and

weighting, scaling, or both, different windows in a process state matrix differently (see col. 14, lines 11-26).

With respect to claim 9, Pakonen further teaches comprising:

combining matrix elements in discrete regions of interest of said process state matrices (see col. 8, lines 51-58).

With respect to claim 10, Pakonen further teaches comprising:

dividing up the discrete regions of interest into discrete windows; and treating equally the contents of windows of identical regions in said comparison (see col. 8, lines 51-56).

With respect to claim 11, Pakonen further teaches comprising:

linking state changes obtained from the comparisons of the state parameters obtained from regions of interest to obtain a number of state parameters (see col. 10, lines 15-28).

With respect to claim 12, Pakonen further teaches comprising:

linking state changes obtained from the comparisons of the state parameters obtained from regions of interest, with at least one state parameter obtained from regions not of interest, to obtain a number of state parameters (see col. 10, lines 45-51).

With respect to claim 15, Pakonen further teaches comprising:

visualizing the process state matrices in a representation of the amplitudes as a function of the phase angle, and in an encoding of each such pixel as a function of the frequency of occurrence (see col. 4, lines 17-24).

With respect to claim 16, Pakonen further teaches comprising:

defining the windows in the plane covered by phase angles and amplitudes (see col. 8, lines 23-36).

With respect to claim 17, Pakonen further teaches comprising:

weighting, scaling, or both, different discrete regions of interest differently in said comparison (see col. 14, lines 11-26).

With respect to claim 18, Pakonen further teaches comprising:

defining the regions of interest in the plane covered by phase angles and amplitudes (see col. 8, lines 51-58).

With respect to claim 19, Pakonen further teaches that, the analysis, monitoring, or both, of the development of the partial discharge behavior of the electrical operating device is performed over time (see col. 9, lines 47-51).

With respect to claim 20, Pakonen further teaches that, combining comprises combining adjacently arranged matrix elements in discrete windows (see col. 9, lines 11-15).

With respect to claim 21, Pakonen further teaches that, combining comprises combining adjacently arranged matrix elements in discrete regions of interest (see col. 8, lines 51-58).

With respect to claim 22, Pakonen further teaches that, treating equally in said comparison is performed after averaging of the matrix elements of the respective window (see col. 7, lines 49-52).

With respect to claim 23, Pakonen further teaches said linking comprises mathematical linking (see col. 10, lines 15-28).

3. Claims 3, 4 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Prior Art

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yazici et al. [U.S. Patent No. 6,192,317] describes a partial discharge measurement.

Goehlich et al. [U.S. Patent No. 6,759,595] describes a partial discharge in a high voltage cable.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Felix Suarez, whose

telephone number is (571) 272-2223. The examiner can normally be reached on weekdays from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on (571) 272-2216. The fax phone numbers for the organization where this application or proceeding is assigned is 703-872-9306 for regular communications and for After Final communications.

May 31, 2005

F.S.

MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800